



# Farmers improve food and nutritional security through agroecology in Mozambique

## Introduction

For over a decade ActionAid Mozambique (AAMoz) has worked with strategic partner organisations in the south and north-east of the country to promote agroecology initiatives with 80 farmers' associations consisting of over 8000 farmers. 96% of the members are women and 30% of them young people, cultivating an average of 90.9 hectares per association and striving to improve agricultural production. Despite being crossed by several major rivers, including the Zambeze in the centre and the Limpopo in the south, as well as containing a number of lakes, Mozambique has been impacted by severe and increasingly frequent and prolonged droughts over the past 15 years, resulting in long-lasting pockets of hunger.

## Description of the Agroecology system

The agroecological approach is based on conservation of soil, water, forest and other natural resources, as well as cultivated plants and animals. This agroecology initiative aims to support the collective learnings on how to design and implement sustainable production systems based on ecological concepts and principles. Collectives may involve women and men smallholder farmers, their community organisations, NGOs, local facilitators, extension workers and some government agricultural researchers. Farmer to Farmer exchange of knowledge processes are organised, technical assistance delivered, demonstration plots and on-farm experimental fields established. Within the communities where AAMoz and its partners operate side by side with farmers' associations, the work focuses on reducing dependence on external inputs. The use of organic fertilizers and permanent soil cover as well as rationalizing costs and conserving soil and water, and sustainable use of all available resources (plant, animals, forests, etc) are promoted. Fire is avoided for land clearance, as are intensive and deep farming practices. Local traditional knowledge of agriculture is combined with recent scientific understanding to generate the alternatives needed at local level. Local knowledge informs agroecological practices and also facilitates their adoption.



Figure 1. Agroecology Knowledge Exchange in Marracuene, Mozambique



Women have particularly appreciated mulching, which they consider responsible for reducing working hours on weeding and irrigation, giving them more time to dedicate to other domestic and community activities.

Sustainable agriculture has been a major factor for change, given its contribution to directly improving the life conditions of poor and excluded people. These people tend to value the land and prove to be very aware and sensitive to the need of protecting their rights to access land. They also show great interest and courage in demanding the adoption of sustainable approaches.

For more than 10 years, local communities have received support from AAMoz and its local partners and have built and consolidated a vast knowledge base on a multiplicity of agroecology techniques such as: the use of mulching; production and use of compost; collection and use of animal manure as fertilizers; production and use of bio-pesticides; preservation and local production of traditional and improved seeds; multi and inter-cropping; integration of livestock rearing with crop production systems. These techniques reinforce one another and lead to increased soil fertility and agricultural production.

The themes dealt with during farmers to farmers knowledge exchange and training sessions in agroecology include soil conservation and soil improvement, sustainable water management, preservation of seeds, use of organic pesticide; sustainable methods for compost production (natural fertilizers), crop rotation, linkages between agriculture, livestock production and fish farming, agroprocessing, linkage with markets, and advocacy for government support and adoption of agroecology.

The use of these techniques by exchanging knowledge among farmers is promoted by sustainable agriculture local facilitators. They are skilled people who draw on vast experience in agroecology, and visit associations where they mobilize members to engage in sustainable agriculture practices. They set up experimental fields, promote the exchange of experiences among farmers and organise advocacy actions for adoption and incorporation of this technical expertise into public policies. In recent years, AAMoz has been using a more reliable tool for data collection in order to create a more realistic comparative basis between agroecological and conventional systems.

Other stakeholders, including public universities, the Mozambique Institute for Agronomic Investigation, non-governmental organizations, farmers' social movements, and public experts, play an important role for building technical expertise, supplying seeds, providing technical assistance, setting up agricultural fairs, expositions, and exchange of experiences. All these have contributed to the adoption of conservation farming practices and improvement of production and productivity.

## Political and economic context

Mozambique is currently considered one of the poorest countries in the world. The challenges posed by poverty in Mozambique are well reflected in the Poverty Reduction Action Plan (PARP 2011-14) approved by the government in 2010. The PARP focus is on increasing agricultural production, promoting development of small and medium-sized companies (SMEs), and investing in human and social development. However, statistics indicate that in the 1996-2009 period the average annual rate of poverty reduction in Mozambique was 1.17%.

Agriculture is a key economic sector in which the vast majority of the workforce are engaged, although it is estimated to generate a decreasing proportion of GDP as a result of the development of the mining sector. In 2012, agriculture accounted for 25% of the GDP and engaged 80% of the workforce, while



all other sectors accounted for 75% of the GDP and a meager 20% of the national workforce. Annual growth for the sector hit its peak in the 2005-2006 period (above 10%) but due to adverse factors, had successive decreases and currently stands at around 7% per year

This is a tacit recognition of the fact that the current scenario marked by poor performance of the agrarian sector is one of the reasons for the moderate progress shown by the efforts made to reduce poverty and improve food and nutritional security in Mozambique<sup>1</sup>.

### Political space

The allocation of human and material resources to agriculture is still below farmers' expectations, as the government continues to allocate less than 10% of budget expenditure for the agrarian sector. This contributes to the poor performance shown by the agrarian sector, affecting food security in the country. Another important contributing factor as far as reduction of productivity is concerned is the limited number of government extension workers, with an average of only 2 per district resulting in farmers lacking technical support. There is also no guarantee that farmers will receive support on truly sustainable agriculture, as the focus of much of the extension and research services is on conventional agriculture. However, with the support given by civil society organizations, farmers have implemented a number of advocacy initiatives with a view to operationalizing the legal framework, as well as improving allocation of human, material and financial resources. These actions take into account the whole of the agricultural production chain.



Figure 2. Agroecology Knowledge Exchange in Marracuene, Mozambique

## Outcomes of the practices

ActionAid and its partners achieved the following results through the promotion of agroecology:

- 80 farmers' associations, with around 8.000 people of whom between 35 and 40% have reported increase of production and food and nutritional security, use agroecological

<sup>1</sup> Arndt et al., 2010; Cunguara & Hanlon, 2010; e MPD/DNEAP, 2010.



techniques. The majority of these farmers now harvest twice a year, in both raining and dry seasons, as compared to a single annual harvest in the past. They have also reported that the period of food scarcity or food insecurity was reduced from 5 to 3 months. Agroecological practices have reduced women's working hours in production areas, which allows them more time for other domestic and community activities.

- Agroecology contributes to improving women's economic and social empowerment. Women's share in household income has increased, with positive impacts on children's education and health, as well as home infrastructure.
- During this period, over 100 experimental fields for sustainable practices were established. These provide a space for sharing farmers' practical learning and implementing activities for sharing experiences between local, district, national and international associations, as well as a linkage with agronomy research institutions, universities, facilitators or agroecology specialists.
- In 2015, agroecology practices resulted in a government award to the Associação 7 de Abril from the district of Pebane within Zambézia province as the best farmers' association of the year. As part of the award, the association received an honor certificate, a tractor, fully equipped with its tools, a hydraulic pump, 20 cattle and 500 thousand Meticaís (USD7000).

## Message from farmer to farmers

*"I harvest all year round because I use agroecology techniques. It is worth learning how to use them for food and nutritional security!"*

*Living in harmony with nature keeps the land productive and prevents hunger!*

*It is possible to produce enough food without harming the ecosystem – and particularly the land – with agrochemicals.*

*Higher production and less effort!"*

- Message from Margarida Ubisse from LRP – Manhiça, Raina Assane from LRP – Pebane and Judite Magaia from LRP - Marracuene

